

AKH V L E D I A N I , Z. G.

24(4)
 Akademiya nauk Ukrainamoy SSR. Institut fiziki
 Fizikoeksplozatsionnoy i optiko-akusticheskoy yavleniya v poluprovodnikakh i optiko-akusticheskoy yavleniya v poluprovodnikakh, noyabr 1959. K. (Photoelectric and Optical Phenomena in Semiconductors: The Proceedings of the First Conference on Photoelectric and Optical Phenomena in Semiconductors...) Kiev, 1959. 403 p. 4,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR, Prezidium.
 Komissiya po poluprovodnikam.

Ed. of Publishing House: I. V. Maina, Tech. Ed.: A. A. Matveychuk; Rev. Ed.: V. Ye. Lashkarov, Academician, Ukrainian SSR, Academy of Sciences.

PURPOSE: This book is intended for scientists in the field of semiconductor physics, solid state spectroscopy, and semiconductor devices. The collection will be useful to advanced students in universities and institutes of higher technical training specializing in the physics and technical application of semiconductors.

COVERAGE: The collection contains reports and information bulletins (the latter are indicated by asterisks) read at the First All-Union Conference on Optical and Photoelectric Phenomena in Semiconductors. A wide scope of problems in semiconductor physics technology are considered: photoconductor physics, photoconductor forces, optical properties, photoconductor, photoconductor properties, the actions of hard and corpuscular radiations, etc. The materials, thin films and complex semiconductor systems, etc. The materials were prepared for publication by E. I. Rashboy, O. V. Solik, A. B. Tolpygo, A. P. Lubchenko, and M. K. Sheynman. References and discussion follow each article.

- Photoelectric and Optical Phenomena (cont.) SOV/3140
- Vitorkin, M. A., P. I. Matveyev, and S. M. Ryklov. Mechanism of the Formation of Impulses in Crystal Conductors During the Formation of a "Through Conducting Channel" 379
- Rykin, S. M., L. P. Bogdanov, B. M. Konvalenko, and O. A. Matveyev. Semiconductor Devices for Indicating γ -Radiation 386
- Abrikosov, Z. G., I. D. Konozenko, and V. I. Ust'yanov. The γ -Conductivity of CdS 389
- Makharovich, I. G., and V. I. Zhuravskaya. The Photoelectric Effect of X-Rays on Semiconductor Rectifier Cells (Thesis) 396
- Arhangelskiy, A. A., I. V. Vorob'yev, and O. D. Latyshev. Test of the Use of Photoresistors to Record γ -Rays in Engineering* 398

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26-2421

3#195

S/058/62/000/004/155/160
A061/A101

AUTHORS: Akhvlediani, Z. G., Konozenko, I. D., Ust'yanov, V. I.

TITLE: G-conductivity of CdS

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 3 - 4, abstract 4-4-6yu
(V sb. "Fotoelektr. i optich. yavleniya v poluprovodnikakh", Kiyev,
AN USSR, 1959, 389 - 395)

TEXT: Experiments conducted to investigate the secondary conductivity of CdS single crystals and polycrystals under the action of gamma radiation are described. Specially prepared CdS single crystals and polycrystals were transferred to a darkroom. The temperature was varied from 83 to 333°K. Co⁶⁰ was used as the gamma source. The volt-ampere characteristics of CdS single crystals and polycrystals at different gamma dose rates and temperatures, the dosimetric characteristics at various temperatures, the relaxation characteristics at various dose rates and temperatures, and the volt-ampere dark characteristics were taken. It was inferred from experimental results that the gamma current was due to the energy of Compton electrons capable of displacing the lattice ions. This displacement can be related to the formation of an active center which vanishes

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G-conductivity of CdS

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A061/A101

when the ion returns to the lattice point as the result of thermal motion. These assumptions are backed by the temperature dependence of relaxation curves, and also by the fact that the temperature decrease leads to a greater lag of the gamma current drop. There are 10 references.

M. B.

[Abstracter's note: Complete translation]

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S/058/62/000/006/089/136
A057/A101

AUTHORS: Akhvlediani, Z. G., Konozenko, I. D., Ust'yanov, V. I.

TITLE: The gamma-conductivity of CdS

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 37, abstract 6E301
(In collection: "Fotoelektr. i optich. yavleniya v poluprovodnikakh".
Kiyev, AN USSR, 1959, 389 - 395)

TEXT: In order to explain the nature of processes occurring in CdS during irradiation by gamma-rays, volt-ampere, relaxation, and dosimetric characteristics of monocrystalline and polycrystalline CdS samples were investigated, as well as the dependence of these characteristics upon the irradiation capacity and temperature. The method of measuring is described. The obtained results permit the conclusion that the gamma-conductivity depends on the effect of the Compton-electrons which are capable not only to ionize but also to displace the ions of the lattice. The formation of a special activating center is connected with this displacement, which supplies additional electrons into the zone of conductivity. The idea of the activating center allows an explanation of several experimentally observed characteristics.

[Abstracter's note: Complete translation]
Card 1/1

V. Sidorov

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AKHVONEN, V.A.; GRENBERG, Ye.I.; GENIS, M.Ya.; FEYGINA, E.M.
~~BARBEROVA~~ BARBEROVA, V.S.; KOVALEVA, R.A.; ZALEVSKAYA, T.N. SHASHKIN,
M.A.; KOVALENKO, P.N.; ZAK, A.G.; AKHMETOVA, S.A.; MOSTRYUKOV,
P.M.; VEYSEYSKAYA, N.D.

Brief reports. Zav.lab. 23 no.7:801-802 '57.

(MLRA 10:8)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii
i geokhimii AN SSSR (for Akhvonon) 2. Dnepropetrovskiy Truboprokatnyy
zavod imeni V.I. Lenina (for Grenberg, Genis) 3. Angarskiy rementno-
mekhanicheskiy zavod (for Shashkin) 4. Restovskiy gosudarstvennyy
universitet (for Kovalenko) 5. Karagandinskiy zavod sinteticheskogo
kauchuka (for Zak, Akhmetova, Mostryukov, Veyseyskaya).
(Chemistry, Analytic)

L 23742-66 EMT(1) LJP(c) GG

ACC NR: AP6007231

SOURCE CODE: UR/0056/66/050/002/0487/0492

AUTHOR: Akhtyamov, O. S.

ORG: Bashkir State University (Bashkirskiy gosudarstvennyy universitet)

TITLE: Triplet states in a superconductor with magnetic impurities

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 2, 1966, 487-492

TOPIC TAGS: superconductivity, impurity band, paramagnetism, ferromagnetism, conduction electron, electron spin

ABSTRACT: Using the scheme first proposed by L. P. Gor'kov and V. M. Galitskiy (ZhETF v. 40, 1124, 1961), the author analyzes triplet states in a superconductor containing magnetic impurities, both in the paramagnetic and in the ferromagnetic phases, with an aim at eliminating some of the difficulties arising in the theory of superconductivity (Knight shift, ferromagnetic superconductors, and others). In the case of the paramagnetic phase, the exchange inter-

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action between the conduction-electron spins and the magnetic-ion spins is estimated, and the second-order correction to the electron-system energy and the indirect interaction of the impurity spins are determined. In the case of a ferromagnetic superconductor, it is shown that the energy spectrum is determined by a cubic equation, owing to the complete lifting of the degeneracy with respect to the pair spin. It is concluded that the triplet model is more attractive for a theory of a ferromagnetic superconductor, but further account of the effect of superposition of singlet and triplet pairings is necessary for final conclusions. The author thanks A. A. Berdyshev, L. P. Gor'kov, and M. S. Svirskiy for a discussion of the work and useful comments. Orig. art. has: 12 formulas ³

SUB CODE: 20/ SUBM DATE: 27Aug65/ ORIG REF: 006/ OTH REF: 005

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DEPENDENCE OF SHRINKAGE AND DEFECTS OF PORCELAIN WARE ON THE POSITION OF MINERAL PARTICLES PRESENT IN THE WARE. O. L. Efremov and A. M. Akh'yan. <i>Keram. Sbornik</i> 1941, No. 13, 10-21. The factor dependent upon the character of distribution of structural elements (mineral particles, pores, water) in bodies is the one-sided pressure (that bodies undergo during technologic working). The basic character of porcelain bodies is the flow structure, dependent upon the distribution of mineral particles in space. During working the structural elements tend to lie with the long axis perpendicular to the mech. pressure exerted upon them. Particles of kaolin have a scaly appearance. Sericite and hydrophyllite, found in large amounts in clays and kaolins, have particles of the same character. Grains of nonplastics (quartz, feldspar) and fluxes (feldspar) have a broken appearance. The orientation of particles during casting is due to osmotic pressure occurring in the slip because of the absorption of water by the plaster mold. The structural elements are distributed perpendicularly to the osmotic pressure, i. e., parallel to the walls of the mold. Bodies drawn through a press possess a homogeneous structure. Deformation and cracking depend on the degree of homogeneity of the body structure. Homogeneity depends upon the method of shaping and degree of working. Shrinkage depends on many factors, including: dehydration of kaolin, degree of multilization of the body, degree of melting of easily fusible admixts. penetrating the body pores and structural characteristics (size, shape and distribution of mineral particles, etc.) before firing. M. V. Condolde			
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AKH'YAN, A.M.

PROCESSES AND PROPERTIES INDEX

Role of corundum dust in the mass of the talc-clay spark-plug insulating material. A. M. AKH'YAN. *Prod. Stroit. Material.*, 1941, No. 1, pp. 35-36; *Khim. Referat. Zhur.*, 4 [7-8] 90 (1941); *Chem. Abstracts*, 38, 1084 (1944). — Corundum dust (4.5%) is added to increase the vitrification range. A sieve test shows a residue of 1 to 15% on a sieve with 10,000 openings/sq. cm. Impurities in the corundum dust were harmful; its replacement by Al_2O_3 , kyanite, andalusite, quartz, grog, etc., was unsatisfactory.

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533. Soft Porcelain Production in the Kirov Porcelain Works. (In Russian.) A. M. Akh'yan. <i>Stekol'naya i Keramicheskaya Promyshlennost' (Glass and Ceramic Industry)</i>, v. 4, Oct. 1947, p. 17. Describes composition and method of production of a "soft" porcelain, particularly suitable for household utensils and art objects.																																																																																																																																																																																																																																																																																																																																																																																																																																							
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AKH"YAN, A.M.

Correlation between the structure of ceramic specimens and the
methods of processing it. Stek. i ker. 13 no.811-15 Ag '86.
(Ceramic materials) (MIRA 9:10)

AUTHOR: Akh'yan, A.M., Engineer. 110-6-15/24

TITLE: The influence of constructional parts of insulators on their flashover voltage. (Vliyaniye konstruktivnykh elementov izolyatorov na ikh razryadnoye napryazheniye)

PERIODICAL: "Vestnik Elektropromyshlennosti"(Journal of the Electrical Industry)1957, Vol.28, No.6, pp.53-55 (U.S.S.R.)

ABSTRACT: This article describes tests that were carried out with the object of improving the design of rod type insulators particularly in respect of flashover voltage. The tests were made on five variants of porcelain insulator type CA-110, see Fig.1. The experimental designs differ in respect of the number and arrangement of the skirts, the distance between them and their diameters. The dimensions of the various insulators are tabulated together with the dry and wet flashover voltages. The results show that the dry flashover voltage increases with the length of the insulator but that the relationship is not linear. For a given insulator the spacing between the skirts (whether they are uniformly distributed or concentrated at the ends or at the centre) has no effect on the dry flashover voltage. Increase in the number of skirts increases

Card 1/2

The influence of constructional parts of insulators on their flashover voltage. (Cont.) 110-6-15/24

the wet flashover voltage up to a certain point after which it begins to diminish again. For an insulator 1 m long the best result was obtained with 14 skirts. Grouping the skirts in pairs reduced the wet flashover voltage. On the basis of the test two new designs are suggested for insulator (A-110 one of which has a higher dry flashover voltage and the other a higher wet flashover voltage than the existing design, whilst both are easier to make. The tests were made in laboratory conditions in which the effects of fog or freezing rain could not be reproduced. Note is made of the different behaviour of insulators in the horizontal and vertical positions and the possible effects of freezing rain and fog are considered. There is 1 figure and 1 table.

Card 2/2

ASSOCIATION: Fittings and Insulator Works imeni Artem. (Armaturno-izolyatornyy zavod imeni Artema)

SUBMITTED: January 16, 1957.

AVAILABLE:

AKH'YAN A.M.

LINE MATERIALS

"Effect of Structural Characteristics of Insulators on Their Breakdown Voltage" by Engineer A. M. Akh'yan (Line Equipment and Insulator Plant imeni Artem). Vestnik Elektropromyshlennosti, No. 6, June 1957, Pages 53 -- 55.

Lists a series of 110 kv suspension insulators together with various characteristics and their dry and wet breakdown voltages.

Card 1/1

- 27 -

A. Kh'yan, A.M.

AUTHOR: Akh'yan, A.M. (Engineer)

110-2-13/22

TITLE: Lifting of glaze on porcelain insulators. (O sborke glazuri na farforovyykh izolyatorakh.)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, No.2, pp. 47-48 (USSR)

ABSTRACT: This article describes glazing defects observed at the Artem works, the causes of which were established by a special investigation. Nine types of defect are then described and the causes stated. Bare patches of irregular shape and accumulations of glaze are related to the density of the glaze, the dustiness of the product and uneven firing. If the glaze lifts in large round or oval patches the trouble usually originates in the firing process and commences from a small point at which the glaze is broken down. When the trouble occurs on a convex surface it is caused by dust; on a concave surface it is usually caused by excessive moisture of the pot. Lifting of the glaze in numerous small spots occurs only on certain types of insulator when quantities of dust stick to the wet surface: then special measures have to be taken to remove the dust from the surface. Sometimes the glaze lifts in shapes resembling hieroglyphs, often at the edges of insulator plates. The cause is the same as that of small spots. Lifting of the glaze sometimes starts at places which are insulated with paraffin wax before glazing, or which are not glazed at all. This happens because high surface-tension in the molten glaze tends to draw it away from the edges. The effect is

Card 1/2

AUTHOR: Akh"yan, A. M.

SOV/72-58-8-9/17

TITLE: The Influence of the Shell Thickness of Faience and Porcelain Products on Their Shrinkage and Water Absorption
(Vliyaniye tolshchiny cherepka fayansovykh i farforovykh izdeliy na ikh usadku i vodopogloshcheniye)

PERIODICAL: Steklo i keramika, 1958, Nr 8. pp. 26-31 (USSR)

ABSTRACT: The experiments were carried out with sample plates of 50 mm length and of various thickness. They had been cast from faience slags of different composition (Table 1). The author determined the air- and fire-shrinkage as well as the water absorption (Table 2). He found that with the increase of the thickness of the plate the shrinkage increases, the water absorption, however, decreases. From table 2 may be seen that shrinkage and water absorption is different for various masses. In table 3 the experimental results obtained with samples of an isotropic form (sphere and cube) are mentioned. For experiments with porcelain samples plates, spheres and cubes of porcelain were produced by the factory imeni Lomonosov (Table 4). In table 5 the values of the shrinkage in the longitudinal direction, lateral direction and thickness are given. According to these

Card 1/3

The Influence of the Shell Thickness of Faience and SOV/72-58-8-9/17
Porcelain Products on Their Shrinkage and Water Absorption

values the volumetric shrinkage was calculated (Table 6). The dependence of the water absorption and the volumetric shrinkage of the cast samples on their thickness may be seen from figure 1. The samples of cubic and spherical form are shown in figure 2, the experimental results in table 7. In order to characterize the dynamics of the fire shrinkage and the porosity the samples were dilatometrically measured at the GIKI; the results of these measurements are shown in figure 3. Conclusions:

- 1.- The sample plates of fine ceramic masses exhibit an anisotropic shrinkage.
 - 2.- The volumetric shrinkage and water absorption of the anisotropic ceramic samples are reciprocally dependant on the thickness of the body.
 - 3.- The volumetric shrinkage in the case of samples of isotropic forms is similar.
 - 4.- A different ratio exists between air and fire shrinkage with samples of different bodies.
- There are 3 figures and 7 tables.

Card 2/3

The Influence of the Shell Thickness of Faience and SOV/72-58-8-9/17
Porcelain Products on Their Shrinkage and Water Absorption

1. Ceramic materials--Physical properties 2. Water--Absorption 3. Ceramic
materials--Absorptive properties 4. Ceramic materials--Test results

Card 3/3

15(2)

SOV/72-59-1-8/16

AUTHOR:

Akh"yan, A. M.

TITLE:

Causes of Deformation and Cracking of Porcelain Products
(Prichiny deformatsii i treska farforovykh izdeliy)

PERIODICAL:

Steklo i keramika, 1959, Nr 1, pp 24-26 (USSR)

ABSTRACT:

Deformation and cracking of the products can occur also in steady drying. The author carried out investigations already earlier in order to find other causes of these defects (Ref 1). A homogeneous structure plays an important role and depends on the method of kneading the mass (Ref 2). The particle orientation in the ceramic mass is also of great importance, as may be seen in a previous paper by G. L. Yefremov and the author (Ref 3, Figs 2 and 3). Figure 1 shows a characteristic case of cracking in products with a heterogeneous structure during the drying and firing process. The examination of cubic samples showed different deformation degrees of edges and surfaces (Fig 4). By pressure and concussion in the processing, and transportation of the raw products mechanical strains may originate which usually result in radial cracks on drying and firing (Fig 5)

Card 1/2

SOV/72-59-1-8/16
Causes of Deformation and Cracking of Porcelain Products

There are 5 figures and 3 Soviet references.

ASSOCIATION: Leningradskiy farforovyy zavod imeni Lomonosova
(Leningrad Porcelain Works imeni Lomonosov)

Card 2/2

AKHMYAN, Arminak Misakovich; PTICHKIN, P.N., inzh.; red.; ZHITNIKOVA, O.S.,
tekhn. red.

[Manufacture of porcelain insulators for high-voltage apparatus]
Proizvodstvo farforovykh izoliatorov dlia apparatov vysokogo nap-
riazheniia. Moskva, Gos. energ. izd-vo, 1961. 278 p.
(MIRA 14:11)

(Electric insulators and insulation)

AKH"YAN, A.M.

Causes of the formation of projecting strips on poured articles.

Stek. i ker. 19 no.2:29-30 F '62. (MIRA 15:3)

(Ceramics)

AKH"YAN, A.M.

Glue for porcelain articles. Stek. i ker. 19 no.6:28 Je '62.
(MIRA 15:7)

(Glue) (Porcelain)

AKH"YAN, A.M.

New developments in procelain technology. Stek.1 ker. 19
no.4:21-23 Ap '62. (MIRA 15:8)
(Porcelain)

AKH"YAN, A.M., inzh.

Moistening of pottery during glazing. Stek. i ker. 20 no.5:25-28
My '63. (MIRA 16:7)

1. Leningradskiy farforovyy zavod imeni Lomonosova.
(Pottery) (Glazes)

AKH"YAN, A.M., inzh.

The effect of texture and conjugation of parts on the
defects of ceramic wares. Stek. i ker. 20 no.7:28-33
Jl '63. (MIRA 17:2)

1. Leningradskiy farforovyy zavod imeni Lomonosova.

AKH"YAN, A.M., inzh.

Various types of bubble forming on glazes. Stek. i ker. 20
no.10:20-24 0 '68. (MIRA 16:10)

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(Glazes--Defects)

AKH"YAN, A.M., inzh.

Influence of the composition of glazes on the deformation of
porcelain ware. Stek. i ker. 22 no.2:21-25 F '65. (MIRA 18:3)

1. Leningradskiy farforovyy zavod imeni M.V. Lomonosova.

AKH"YAN, A.M., inzh.

Sources of the gaseous phase formation in a ceramic body.
Stek. i ker. 22 no.11:29-33 N '65. (MIRA 18:11)

1. Leningradskiy farforovyy zavod imeni M.V. Lomonosova.

RIVKIN, S.L.; TROYANOVSKAYA, G.V.; AKHYNDOV, T.S.

Experimental study of the specific volume of water from isochors
close to the critical value. Teplofiz. vys. temp. 2 no.2:219-229
Mr-Apr '64. (MIRA 17:6)

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USSR/Mathematics - Hypersurface,
Conformal Space

21 Jan 52

"Invariant Construction of the Geometry of Hypersurface of Conformal Space," M. A. Akieis

"Dok Ak Nauk SSSR" Vol LXXXII, No 3, pp 325-328

Contains the invariant construction of the geometry of hypersurface of an n-dimensional space, which construction does not depend upon the "fitting out" of the surface as in A. P. Norden's works. Employs the method developed by G. F. Laptev, consisting of the application of the theory of

211770

representation of Lie groups and calculi of exterior differential forms in studies of subgroup manifolds. Submitted by Acad A. N. Kolmogorov 27 Nov 51.

211770

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Mechanization is the key to success in operations. Tyl i snab.
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(Granaries)
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AKIF'YEV V.A.

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J. R. Neller

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 $p\text{-C}_6\text{H}_4\text{Cl}\cdot\text{SO}_2\text{Cl} \rightarrow p\text{-C}_6\text{H}_4\text{Cl}\cdot\text{SO}_2\cdot\text{NH}\cdot\text{C}(\text{NH})_2\cdot\text{NH}_2 \rightarrow \text{I}$. A simpler
process, giving higher yields (70%), consists in heating sulphanil-
anido paste with a small excess of guanidine carbonate at 160—165°
for 3 hr. under reflux.

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[Produce 142 lambs from every 100 ewes] 142 iagnenka ot kazhdykh
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Determination of the degree of sensitivity of dysentery bacteria
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Influence of sulfanilamides and antibiotics on the secretory and
motor function of the stomach. Lech. infekts. bol'. no.4:47-52
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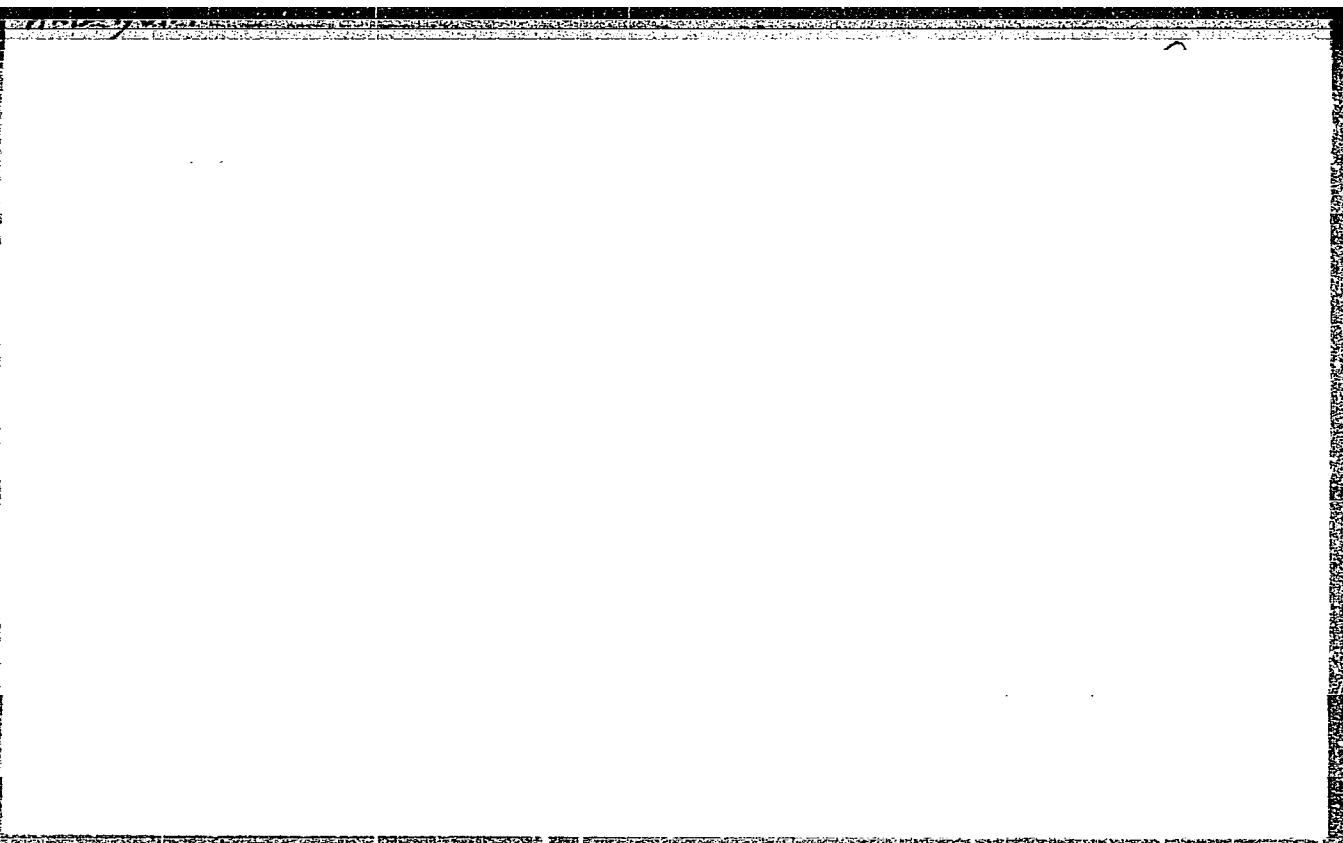
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at each point of the unit sphere is unique has property P_1 .
If X has property P_1 and if T of bound one projects X onto
 $Y \subseteq X$, then Y has property P_1 . M. M. Day.

Source: Mathematical Reviews,

Vol 7 No 7

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Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, Vol. 3, pt. 1, 1954.
339 p. (MLRA 7:11)
(Groups, Theory of) (Transformations (Mathematics))

LEBEDEV, N.N.; SKAL'SKAYA, I.P.; UFLYAND, Ya.S.; AKILOV, G.P., redaktor;
VOLCHOK, K.M., tekhnicheskly redaktor.

[Collection of problems in mathematical physics] Sbornik zadach
po matematicheskoy fizike. Moskva, Gos.izd-vo tekhniko-teoret.
lit-ry, 1955. 420 p. (MLRA 8:10)
(Mathematical physics)

FIKHTENGOL'TS, Grigoriy Mikhaylovich; AKILOV, G.P., redaktor; VOLCHOK, K.M.,
tekhnicheskiiy redaktor.

[The principles of mathematical analysis] Osnovy matematicheskogo
analiza. Moskva, Gos.izd-vo tekhniko-teoret. lit-ry. Vol.1, 1955.
440 p. (MIRA 8:4)
(Functions)

NATANSON, Isidor Pavlovich; AKILOV, G.P., red.; VOLCHOK, K.M., tekhn.red.

[Summation of infinitely small quantities] Summirovaniye beskonechno
malykh velichin. Izd.2., ispr. Moskva, Gos.izd-vo tekhniko-tsoret.
lit-ry, 1956. 54 p. (Populiarnye lektsii po matematike, no.12)
(Mathematical analysis) (MIRA 12:4)

SMIRNOV, Vladimir Ivanovich; akademik, udostoyen Stalinskoy premii v 1948 godu;
AKILOV, G.P., redaktor; VOLCHOK, K.M., tekhnicheskiiy redaktor.

[Course in higher mathematics] Kurs vyashei matematiki. Izd. 16-oe, ispr.
Moskva, Gos.izd-vo tekhniko-teoret. lit-ry. Vol.1. 1956. 478 p.
(Mathematics) (MIRA 9:6)

FIKHTENGOL'TS, Grigoriy Mikhaylovich; AKILOV, G.P., redaktor; VOLCHOK, K.M.,
tekhnicheskii redaktor.

[Fundamentals of mathematical analysis] Osnovy matematicheskogo
analiza. Moskva, Gos.izd-vo tekhniko-teoret. lit-ry. Vol.2. 1956.
464 p. (Calculus) (MIRA 9:6)

SMIRNOV, Vladimir Ivanovich, akademik; ndostoyen Stalinskoy premii v 1948 godu;
AKILOV, G.P., redaktor; VOLCHOV, K.M., tekhnicheskiy redaktor

~~SMIRNOV, Vladimir Ivanovich~~
[A course in higher mathematics] Kurs vysshei matematiki. Izd. 14-oe,
ispr. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry. Vol.2. 1956.
628 p. (MLRA 9:7)
(Mathematics)

SMIRNOV, Vladimir Ivanovich, akademik; AKILOV, G.P., redaktor; VOLCHOK,
K.M., tekhnicheskii redaktor

[A course in higher mathematics] Kurs vysshei matematiki. Izd. 7-oe.
Moskva, Gos. izd-vo tekhniko-teoret. lit-ry. Vol.3, pt.1. 1956.
328 p. (MIRA 9:12)
(Mathematics)

SMIRNOV, Modest Mikhaylovich; AKILOV, G.P., red.; VOLCHOK, K.M., tekhn.
red.

[Equations in mathematical physics; problems] Zadachi po uravneniam
matematicheskoi fiziki. Izd. 3-a, dop. Moskva, Gos. izd-vo tekhniko-
teoret. lit-ry, 1957. 103 p. (MIRA 11:4)
(Mathematical physics--Problems, exercises, etc.)

AKILOV, G. P.

PHASE I BOOK EXPLOITATION

155

AUTHOR: Mikhlin, S. G.

TITLE: Variational Methods in Mathematical Physics
(Variatsionnyye metody v matematicheskoy fizike)

PUB. DATA: Gosudarstvennoye izdatel'stvo tekhniko-teoreticheskoy
literatury, Moscow, 1957, 476 pp., 6,000 copies

ORIG. AGENCY: None given

EDITORS: Akilov, G. P.; Tech. Ed.: Volchok, K. M.

PURPOSE: This book will be of interest to scientific workers
in physics and engineering. The author's intention
is to acquaint readers with "variational methods" as
applied to mathematical physics, the theory of elas-
ticity, fluid mechanics and to other fields of engineer-
ing.

COVERAGE: This book is a revision of the author's "Direct methods
in mathematical physics" published in 1950. In this

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Variational Methods in Mathematical Physics (Cont.)

155

revision the author is primarily concerned with variational methods, namely, the energy method, the method of least squares, the method of orthogonal projections, the Treftz method and the method of Bubnov-Galerkin which is closely related to the energy method. One long chapter is devoted to methods of determining error bounds of approximate solutions arising in the energy method and in the other methods. This problem was only mentioned in the previous book but is treated here in the light of recent foreign and Soviet work. The numerical examples were reduced but those included carry calculation to the determination of error. One chapter presents the basic tasks of mathematical physics introducing the concepts "operator" and "functional" and analyzes the most common operators of mathematical physics. The theory of eigenvalues is investigated in connection with various problems. In addition to variational methods some finite difference methods are presented. Reference is made to V. I. Smirnov's "Course of Higher Mathematics" and the author thanks K.Ye. Chernin for making the new calculations in the book, and G. P. Akilov who reviewed the manuscript.

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Moskva, Gos. izd-vo tekhniko-teoret. lit-ry. Vol.3, pt.2. 1957.
674 p. (MIRA 11:4)

(Functions)

AKILOV, G. P.

VULIKH, Boris Zakharovich; AKILOV, G.P., red.; VOLCHOK, K.M., tekhn.red.

[Introduction to functional analysis] Vvedenie v funktsional'nyi
analiz. Moskva, Gos. izd-vo fiziko-matematicheskoi lit-ry.
1958. 352 p. (MIRA 11:5)

(Functional analysis)

43-7-3/18

AUTHOR: ~~AKILOV, G.P.~~ VERSHIK, A.M.

TITLE: Mutally Continuous Extension of Linear Operations (O vzaimno nepreryvnom rasprostraneni lineynykh operatsiy)

PERIODICAL: Vestnik Leningradskogo Universiteta, Seriya Matematiki, Mekhaniki i Astronomii, 1958, Nr 7 (2), pp27-33 (USSR)

ABSTRACT: Let U_0 be a linear operation in the Banach space X_0 .
 Theorem: If U_0 is a biunique linear operation which maps X_0 into itself, then there exists a local-convex space $X \supset X_0$ and a biunique and bicontinuous operation U which maps X into itself, where for all $x \in X_0$ there holds $U(x) = U_0(x)$.
 According to Sebastian i Silva [Ref.1] the space X is constructed as an inductive limit of a sequence of normed spaces X_n ($n=0,1,\dots$).
 The construction is impossible if U_0 is not biunique. But if U_0 maps the space X_0 onto a set being dense in X_0 , then the conjugate operation U_0^* is biunique in X_0^* . Let $\hat{X}_n$ be the corresponding normal spaces and $\hat{X}$ their inductive limit. Then there holds the theorem:

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Mutally Continuous Extension of Linear Operations

43-7-3/18

Theorem: Under the last assumptions there exists a locally convex space $\hat{X} \supset X_0^*$ and a biunique and bicontinuous operation $\hat{U}$ which maps $\hat{X}$ into itself, where for $f \in X_0^*$ there holds:
 $\hat{U}(f) = U_0(f)$.

As $\hat{X}$ there may serve the space of linear functionals on a countably-normed space $\bar{X}$. Then $\hat{U}$ is conjugate with a certain operation $\bar{U}$ on $\bar{X}$.
 2 Soviet and 4 foreign references are quoted.

SUBMITTED: 13 January 1958

AVAILABLE: Library of Congress

Card 2/2 1. Topology 2. Conformal mapping 3. Mathematics-Theory

GYUNTER, Nikolay Maksimovich; KUS'MIN, Rodion Osipovich; AMOSOV, S.I., red.;
DZHANELIDZE, G.Yu., red.; AKILOV, G.P., red.; VOLCHOK, K.M., tekhn.
red.

[Collection of problems in higher mathematics] Sbornik zadach po
vysshei matematike. Pod red. S.I. Amosova i G.Yu. Dzhanelidze.
Izd.13., perer. Moskva, Gos. izd-vo fiziko-matematicheskoi lit-ry.
Vol.2. 1958. 286 p. (MIRA 11:9)
(Mathematics--Problems, exercises, etc.)

KRYLOV, Vladimir Ivanovich; AKILOV, G.P., red.; POL'SKAYA, R.G., tekhn.red.

[Approximate computation of integrals] Priblizhennoe vychislenie
integralov. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1959. 327 p.
(MIRA 12:8)

(Integrals)

SMIRNOV, Vladimir Ivanovich, akademik. Prinimeli uchastiye: LADYZHENSKAYA, O.A., prof.; BIRMAN, M.S.; AKILOV, G.P., red.; POL'SKAYA, R.G., tekhn.red.

[Course in higher mathematics] Kurs vysshei matematiki. Moskva, Gos.izd-vo fiziko-matem.lit-ry. Vol.5. 1959. 655 p.
(MIRA 12:10)

(Mathematics)

AKILOV, G. P.

16(1)

PHASE I BOOK EXPLOITATION

SOV/3044

Kantorovich, Leonid Vital'yevich, and Gleb Pavlovich Akilov

Funktsional'nyy analiz v normirovannykh prostranstvakh (Functional Analysis in Normed Spaces) Moscow, Fizmatgiz, 1959. 684 p. 6,000 copies printed.

Ed.: B. M. Makarov; Tech. Ed.: R. G. Pol'skaya.

PURPOSE: This book is intended for students specializing in mathematical analysis and computer mathematics.

COVERAGE: The book treats the theory of normed spaces, the theory of operations, and the theory of functional equations. Linear as well as non-linear operations and equations are discussed. In addition to the general theory, particular functional spaces and operations are considered. In particular, the spaces of differentiable functions of many variables, introduced by S. L. Sobolev, are treated. The Hilbert space and the theory of operators in it are considered as a part of the theory of Banach spaces. Of the other approaches to functional analysis, only

Card 1/8

Functional Analysis (Cont.)

SOV/3044

the theory of linear topological spaces is treated in this book (Ch. XI). In the treatment of functional analysis, particular attention is given to its use in applied analysis for the construction and investigation of approximate methods (Ch. XIV). The authors thank B. M. Makarov, A. N. Baluyev, A. M. Vershik, M. K. Gavurin, I. K. Daugovet, V. P. Il'in, B. A. Samokish, V. N. Sudakov, L. V. Florinskaya, and V. P. Khavin. Standard reference works in functional analysis are listed. There are 145 references: 66 Russian, 35 English, 26 German, 15 French, 2 Italian, and 1 Polish.

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Card 7/8

FIKHTENGOL'TS, Grigoriy Mikhaylovich; AKILOV, G.P., red.; POL'SKAYA,
R.G., tekhn.red.

[Course in differential and integral calculus] Kurs diffe-
rentsial'nogo i integral'nogo izchisleniia. Izd.4, ispr. 1
dop. Moskva, Gos.izd-vo fiziko-matem.lit-ry. Vol.2. 1959.
807 p. (MIRA 13:2)
(Calculus, Integral)

16(1)

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Smirnov, V.I., Safronova, G.P., Smolitskiy, Kh.L., and Faddeyev, D.K.

SOV/43-59-19-14/14

TITLE:

Grigoriy Mikhaylovich Fikhtengol'ts (Deceased)

PERIODICAL:

Vestnik Leningradskogo universiteta, Seriya matematiki,
mekhaniki i astronomii, 1959, Nr 19(4), pp 158-159 (USSR)

ABSTRACT:

This is a short obituary of G.M. Fikhtengol'ts, Professor of
the Mathematical-Mechanical Faculty of Leningrad University,
who died on June 26, 1959.
The authors mention M.V. Ostrogradskiy.
There is a photo of Fikhtengol'ts.

Card 1/1

USCOM-DC-61,787

NATANSON, Isidor Pavlovich; AKILOV, G.P., red.; POL'SKAYA, R.G., tekhn.red.

[Very simple problems on the maximum and minimum] Prosteishie zadachi na maksimum i minimum. Moskva, Gos.izd-vo fiziko-matem. lit-ry, 1960. 29 p. (Populiarnye lektsii po matematike, no.2).
(Maxima and minima) (MIRA 13:8)